ENVRIPLUS IMPACT AND ACHIEVEMENTS

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IMPACT AS DEFINED IN ENVRI PROJECT PROPOSAL

- Impact at single RI level
- Impact on the EU RI governance and operations:
- Impact of quality, quantity and diversity of services offered by RIs:
- Innovative use of data and data-products:
- Building new scientific knowledge:
- Increased capacity for joint management of environmental crisis;
- Addressing the needs for standardization for essential environmental variables:
- Favouring links with the private-sector
An ENVRI Reference model concept
ADDRESSING ENVRI PLUS COMMUNITY

ENVRI addressing the whole community of personnel involved in RI operations

Coordination

Theme leaders

WP leaders

Doing the work

BEERI

Domain Leaders

Coordination

Technology

Data

Access

Society

Training

Outreach

WP1
WP2
WP3
WP4
WP5
WP6
WP7
WP8
WP9
WP10
WP11
WP12
WP13
WP14
WP15
WP16
WP17
WP18
WP19

ICODS
ACTRIS
LTER
EURO-ARGO
EMBRC
SIOS
IGOS
ANAE
LIFEWATCH
INTERACT
EUROGOOS
EMSO
JERICO-2
EPOS
EUROFLEETS
FIXO3
SeaDataNet
EISCAT-3D
ELIXIR

Atmosphere

Marine

Ecosystem/Biodiversity

Solid Earth
Import new tools to single RI

Addressing the whole RI lifetime from technologies, to data management, training, access, communication...

Subsidiarity principle applies, what is best done at single RI is done at single RI;

Use-case approach to favour implementation (all themes)
Tools adopted by single RIs
Pooling together resources not available at single RI level:

- Ethical issues (Theme 4)
- Reference model for data management (Theme 2)
- Applied at ICOS, EISCAT-3D, EMSO, EUFAR
- To be applied at EUROARGO, EPOS, LTER
- Energy-unit for extreme environments (Theme 1)
- Best practice in communication and access (Theme 3, 5)
- …more in the future
Do it better together

Surveys brought a very complete view of RI operations across domains: technologies, Access modalities, communication, private partnership,…

Joint experiments in Theme 1

Building an interoperable framework for data management (Theme 2)

Raising RI skills (Theme 5)

BEERI, a single voice for ENVRII strategies (theme 6)

Joint Communication EGU, AGU, (Theme 4).

…
Do it better together

Building the RI landscape (domain and cross-domain). Coordination/BEERI level discussions

Promoting joint projects (joint responses to EOSC pilot, GEO related calls), COPERNICUS and GEO

ENVRI – COPERNICUS WS

- Ris recognized as main contributors to in-situ component
- EEA foundations project

ENVRI – GEO more problematic

Contribution to future organization of Terrestrial ecosystem landscape (theme 4)
IMPACT OF QUALITY, QUANTITY AND DIVERSITY OF SERVICES OFFERED BY RIS:

- Not yet measurable

- Most recent INFRAIA projects have been constructed in the ENVRI framework
  - Reference model
  - Access model
  - Ethical issues
INCREASED CAPACITY FOR JOINT MANAGEMENT OF ENVIRONMENTAL CRISIS;

- Ethical Framework developed in Theme 4
- Will be applied/used by many ENVRIs
- Will raise awareness of ENVRI in relation to natural disasters and environmental crisis
- Theme 5 staff exchange program may be used to share knowledge on those issues
ENVRI, a true multi-disciplinary project
Addresses strategic issues but also leverage on joint operations
Cross-domain access program (Theme 3)
Implementation of Use-cases
Test new technologies on drones (theme 1)
Joint experiments (methane from seafloor to atmosphere) involving different RI
INNOVATIVE USE OF DATA AND DATA-PRODUCTS

- ACCESS is cross-domain oriented (Theme 3)
- Joint training schools (theme 5)
- Use-case implementation (theme 1 and 2)
- …
## INNOVATIVE USE OF DATA AND DATA PRODUCTS

<table>
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ENHANCING PARTNERSHIP WITH PRIVATE SECTOR

- ENVRI, large enough to be identified as key partner
- Defining current level of partnership with private sector (user, co-developer, etc..)
- Defining industry sectors most interested in collaborating with ENVRI (manufacturing, services, etc..)
- Defining the suited communication to sell RI services
- Task-force organised in Theme 6

1st Industry forum

- 52 private partners responded and are present in Grenoble
- Identify EU programs suited for PPP
- Metrology aspects are central
ADDRESSING THE NEEDS FOR STANDARDIZATION FOR ESSENTIAL ENVIRONMENTAL VARIABLES:

- ENVRI, large enough influence standardization process for key environmental variables
  - Sets of variables addressed by different Ris (Theme 1)
  - Towards joint CH4 calibration procedures
  - Certification for extreme environments (Theme 1)
- Established links with National Metrology Institutes
- ENVRI supporting EMPIR/EURAMET projects (Theme 6)
- 1st Industry forum
CONCLUSIONS:

- ENVRI addresses the whole life-cycle of Research Infrastructures – technologies, data management, training, communication, access
- Numerous issues are better treated as ENVRI and cannot be addressed in single RIs
- A growing ENVRI community also within RI operators – unique platform for sharing and developing tools
- A truly multi (inter)-disciplinary project

Future work

- Ensure implementation of ENVRI tools (through use-cases)
- National ENVRI communities
- Ensure that we identify the proper KPIs for measuring success - More to come as project develops